

APPLICATION FOR
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SPECIFICATION

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Title of the Invention: INTERNET DATABASE

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INTERNET DATABASE

Background of the Invention

Field of the Invention

5 The present invention relates to the technology of inserting into an application by an easy operation of a client connected to the network various CAD parts data, image data, etc. provided by a server connected to a network such as Internet,
10 etc. through a Web browser.

Description of the Related Art

 Recently, the technology of improving the utilization of the local disk resources of a client
15 by selecting, downloading, and using in an application, etc. only the data required by a client 102 from among various data provided by a server 101 connected to a network 103 such as Internet, etc. has been widely used (FIG. 1).

20 For example, when a user is designing a building using a CAD application in the client 102, it is possible for the user to select only the required data from among various latest CAD parts data, image data, etc. published by a building
25 material manufacturer, etc. on the Web, load the

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data, and design the building using the downloaded data.

However, it is necessary to perform the designing process after downloading various CAD parts data and image data published on the Web, and the user has to download the data during the designing process, thereby disturbing the efficiency of the process.

On the other hand, there is the technology of generating hyperlinks 205 and 206 on an application 102' only by dragging and dropping a linked image 203 and a link 204 on a Web browser 201 onto an application 202 of the client 102 using a mouse. For example, if a linked image and a link in Internet Explorer (registered trademark of Microsoft Corp. U.S.A.), which is a Web browser, are dragged and dropped onto Word (registered trademark of Microsoft Corp. U.S.A.), which is an editor application, then a hyperlink can be easily generated in Word (FIG. 2).

However, only a piece of information such as a hyperlink, etc. can be applied to the application of the client. It is actually demanded that various types of information, for example, the name, the model number, etc. of CAD parts can be inserted

into the application of the client in one dragging-and-dropping operation.

Summary of the Invention

5 The present invention aims at providing a system capable of inserting all necessary information into the application in a simple operation such as a dragging-and-dropping operation, etc. when various CAD parts data, image data, etc.
10 published on the Web in the application of a client are to be used.

 In the conventional system, when various CAD parts data, image data, etc. published on the Web in the application of a client are to be used,
15 target information is downloaded and stored on the local disk of the client, and then the stored data is used. According to the present invention, the utilization of the local disk resources of a client can be further improved by referring to various CAD
20 parts, image data, etc. on the Web without storing target information on the local disk of a client.

 To solve the above mentioned problems with the conventional technology, the present invention not only inserts various and image data published on
25 the Web, but also simultaneously inserts the

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FIG. 1 shows the conventional technology (1);

FIG. 3 shows the configuration showing the

FIG. 4 shows the process of inserting CAD parts data published on a Web page into the CAD application by a dragging-and-dropping operation or a copying-and-pasting operation;

FIG. 6 shows an attribute item of the CAD parts data and the explanation of the data;

FIG. 8 shows a process of displaying a Web page from the URL managed as an attribute of inserted CAD parts;

FIG. 9 is a flowchart of the process performed by the system when, for example, a Web page is displayed from the URL managed as an attribute of inserted CAD parts;

5 FIG. 10 shows the process of obtaining updated information about the Web page corresponding to each URL of the URL list, and notifying the user of the information;

10 FIG. 11 is a flowchart of the process performed by the system when updated information about the Web page corresponding to each URL of the URL list is obtained, and the user is notified of the information;

15 FIG. 12 shows the process of obtaining the updated information about the CAD parts inserted into the CAD application from the Web page;

20 FIG. 13 is a flowchart of the process performed by the system when the updated information about the CAD parts inserted from the Web page is obtained and reflected;

FIG. 14 shows an information processing device according to the present invention; and

25 FIG. 15 shows the method of distributing a software program, etc. according to the present invention.

Description of the Preferred Embodiment

The embodiments of the present invention are described below by referring to the attached
5 drawings.

FIG. 3 shows the configuration indicating the principle of the present invention comprising a Web display data insertion unit 301, a URL or relevant data management unit 302, and a Web page reference
10 unit 303. The Web display data insertion unit 301 inserts the CAD parts data and the image data into the application by dragging and dropping or copying and pasting various CAD parts data, image data, etc. displayed on the Web browser. The URL or relevant
15 data management unit 302 obtains together with the CAD parts data and the image data the URL and the information about the image data, and manages them as the attributes of the image data. Furthermore, the Web page reference unit 303 refers to the
20 original Web page based on the URL managed as the attribute of the CAD parts data inserted into the CAD application.

Described below furthermore in detail is the embodiment of the present invention.

25 FIG. 4 shows the process of inserting the CAD

parts data published on the Web into the CAD application of the client in the dragging-and-dropping or copying-and-pasting operation. CAD parts 405 can also be inserted into a CAD application 402 by dragging and dropping or copying and pasting CAD parts 403 displayed on a Web browser 401 or a link destination 404 of the data file of the CAD parts using a mouse.

FIG. 5 is a flowchart of the process performed by the system when the CAD parts are inserted into the CAD application by dropping or pasting the CAD parts from the Web as shown in FIG. 4.

First, the URL and the page title displayed on the Web browser are obtained in S501. In S502, the data file of the CAD parts is stored on the local disk. In S503, the type of the format of the stored file is discriminated. If it is a standard file format, control is passed to S505. If it is not a standard file format, then control is passed to S504, and a module is activated to load another CAD application.

In S505, the data file of the CAD parts is loaded. In S506, the position information about the mouse cursor is obtained. In S507, the display position of the CAD parts is computed according to

the position information about the mouse cursor obtained in S506. In S508, the CAD parts are displayed in a rubber-banding format based on the computation result obtained in S507.

5 In S509, it is determined whether or not the mouse cursor has been moved. If yes, then control is returned to S506, and the processes in S506 through S509 are repeated. If not, control is passed to S510, and the system enters an event
10 waiting state.

The previous coordinate data is obtained in S511 when the mouse is dragged in S510. In S512, the relative coordinates are computed from the cursor position information and the previous
15 coordinate data. In S513, the positioning reference point for rubber banding display is changed, and control is returned to S507. Then, the processes in S507 through S510 are repeated.

When the left mouse button is released in S510,
20 control is passed to S514, and the CAD application generates a CAD parts object. In S515, the attribute value of the generated CAD parts, the URL of the Web page, the page title, etc. are set. In S516, the lines, etc. of the CAD parts are drawn in
25 detail (generation of primitive), and the parts are

applied onto the CAD application. Then, control is returned to S506, and the processes in S506 through S510 are repeated. Various attribute items such as the object name, the URL, the URL title (Web page title), etc. are set in S515.

When the ESC key is pressed or another command is executed in S510, the parts data obtained from the Web page is discarded in S517, and the parts file data stored on the local disk is deleted in S518. Since the parts file data is deleted, the data obtained from the Web page is not left on the local disk.

The process shown in FIG. 5 relates to the process performed by the Web display data insertion unit 301 or the URL or relevant data management unit 302 shown in FIG. 3.

Described above is the flow of the process performed by the system as shown in FIG. 4. In the above mentioned process, after the parts have been inserted into the CAD application, the attribute of the target parts can be edited. When the right button is clicked on the CAD parts object to be processed in the CAD application, then a pop-up menu is displayed. If an attribute edition menu is selected from the displayed pop-up menu, then an

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selected from the pop-up menu, the URL stored as an attribute of the CAD parts 405 is added to a URL list 802. The URL added to the URL list 802 is not deleted although the CAD parts 405 corresponding to
 5 the URL have been deleted from the CAD application 402. That is, the URL is constantly stored in the URL list 802 after the CAD application 402 is activated.

In the process (3) shown in FIG. 8, a
 10 corresponding Web page is displayed when the user selects a desired URL from the URL list 802 of the CAD application 402.

FIG. 9 is a flowchart of the process performed by the system when a Web page is displayed
 15 according to the URL managed as an attribute of the CAD parts inserted as shown in FIG. 8.

First, an event is awaited in S901. When an event of selecting a page title of the URL list occurs, control is passed to S904. When an event of
 20 pressing the right button of the mouse occurs in the parts selection state in S901, the pop-up menu is displayed in S902. In S903, it is determined which menu has been selected from the pop-up menu. If the 'open the URL' menu is selected, then
 25 control is passed to S904. If the 'add to the URL

list' menu is selected, then control is passed to S908.

In S904, the corresponding URL information is obtained, and the Web browser is activated in S905.

5 Then, the URL obtained in S904 is set in the Web browser, and the corresponding Web page is displayed in S907, thereby terminating a series of processes.

In S908, the URL and the page title managed as
10 attributes of the CAD parts are obtained, and the obtained URL is entered in the URL list in S909. In S910, the page title is added to the URL list, thereby terminating a series of processed.

The process shown in FIG. 9 relates to the
15 process performed by the URL or relevant data management unit 302 shown in FIG. 3. The URL or relevant data management unit 302 has the function of managing the URL, the relevant data, etc. FIG. 9 actually shows how the information managed by the
20 URL or relevant data management unit 302 is used.

Described below is the process of obtaining updated information about the Web page corresponding to each URL in the CAD application, and notifying the user of the information.

25 In FIG. 10, if a menu 1001 'URL list updated

information' is selected from the menu of the CAD application, the updated information about the Web page corresponding to each URL stored in the URL list is obtained, and a window 1002 displaying the
5 updated information is activated. A Web page title 1003, a URL 1004, and a date of update 1005 are displayed in the window 1002.

FIG. 11 is a flowchart of the process performed by the system when the updated
10 information about the Web page corresponding to each URL in the URL list shown in FIG. 10 is obtained, and the user is notified of the information.

First, in S1101, the 'URL list updated
15 information' menu is selected from the CAD application, and the updated information obtain command is executed. In S1102, the process of retrieving the URL in the URL list is started. In S1103, the URL is obtained. In S1104, the Web page
20 corresponding to the obtained URL is connected. In S1105, the updated information about the Web page is obtained. In S1106, it is determined whether or not there is an unconnected Web page remaining in the URL list. If yes, control is returned to S1103,
25 and the processes in S1103 through S1106 are

repeated. If not, then control is passed to S1107, and the window 1002 which is a list of updated information is displayed, thereby terminating the process.

5 The process in FIG. 11 corresponds to the process relating to the information managed by the URL or relevant data management unit 302 shown in FIG. 3.

Described below is the process of obtaining
10 the latest information about the parts arranged in the CAD application, and notifying the user of the information as the updated information. FIG. 12 shows the process.

In FIG. 12, a pop-up menu 1201 is displayed by
15 clicking the right button of the mouse on CAD parts 1202 inserted from the Web page in the CAD application 402. If the 'updated information' menu is selected from the displayed pop-up menu 1201, then the Web page is referred to based on the URL
20 managed as an attribute of the CAD parts 1202. If the CAD parts 1202 have been updated, then the latest data file of the CAD parts is loaded from the Web page, and a rubber band 1203 is displayed on the CAD parts 1202. Then, a message window 1204
25 is displayed, and the user is inquired whether or

not the CAD parts are to be updated.

FIG. 13 is a flowchart of the process performed by the system when the updated information about the CAD parts inserted from the Web page as shown in FIG. 12 is obtained and reflected.

First, in S1301, the right button of the mouse is clicked on the CAD parts, the 'updated information' menu is selected from the displayed pop-up menu, and a request to obtain the updated information about the target CAD parts is issued. Then, a corresponding URL is obtained in S1302, and a Web page is connected based on the obtained URL in S1303.

In S1304, it is determined whether or not there is an updated data file of the target CAD parts. If not, the process terminates. If yes, control is passed to S1305, and the data file is stored on the disk. In S1306, the parts data is loaded from the stored data file. In S1307, the position information for display of the loaded parts data is obtained. In S1308, the positioning coordinates are computed from the obtained position information, and the rubber band of the new CAD parts is displayed in S1309. In S1310, an update

message window for inquiry as to whether or not the user requests to update the target CAD parts is displayed. If the user selects the update, then control is passed to S1312. If the user issues an instruction to cancel the update, then control is passed to S1316.

In S1312, a CAD parts object is generated in the CAD application. In S1313, the attribute value of the generated CAD parts, the URL of the Web page, the page title, etc. are set. In S1314, the lines, etc. of the CAD parts are drawn in detail (generation of primitive), and are pasted onto the CAD application. In S1315, the parts object before the update is deleted, and control is passed to S1316.

In S1316, the parts data obtained from the Web page are discarded. In S1317, the data file of the parts stored on the disk is deleted, thereby terminating the process.

The process shown in FIG. 13 relates to the process performed by the Web page reference unit 303 shown in FIG. 3.

Described above in detail are the embodiments of the present invention. However, the present invention is not limited to the above mentioned

embodiments. For example, in the above mentioned
embodiments, the CAD parts are inserted from the
Web page into the CAD application, but the data
published on the Web page can be any type of data
5 file such as images, animation, voice, set files,
etc. Furthermore, an application for inserting the
data from the Web page can be any type of
application such as an editor, a drawing tool, etc.
The feature of the present invention resides in
10 that data displayed on a Web page can be inserted
into a target application in a simple operation
such as a dragging-and-dropping operation, and that
the URL, the page title of a Web page, and
information relating to the data displayed on the
15 Web page as well as the data displayed on the Web
page can be inserted into a target application in
one operation.

The present invention is realized by the
information processing device (computer) as shown
20 in FIG. 14. The information processing device shown
in FIG. 14 comprises a CPU (central processing
unit) 1401, memory 1402, an input device 1403, an
output device 1404, an external storage device 1405,
a medium drive device 1406, and a network
25 connection device 1407. These units are

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interconnected through a bus 1408.

The memory 1402 includes, for example, ROM (Read Only Memory), RAM (Random Access Memory), etc., and stores a program and data used in a process. The CPU 1401 performs a necessary process by executing the program using the memory 1402. That is, the Web display data insertion unit 301, the URL or relevant data management unit 302, and the Web page reference unit 303 according to the present invention are operated by the program stored in the memory 1402.

The user performs an editing operation, etc. using the input device 1403 such as a mouse, a keyboard, etc. of the information processing device while watching the application displayed on the output device 1404 such as the display, etc. of the information processing device.

The external storage device 1405 can be, for example, a magnetic disk device, an optical disk device, a magneto-optical disk device, etc. The information processing device stores the above mentioned program, data, etc. in the external storage device 1405 for use later as necessary by loading them into the memory 1402.

The medium drive device 1406 drives a portable

storage medium 1409 to access the stored contents. The portable storage medium 1409 can be any computer-readable storage medium such as a memory card, a floppy disk, CD-ROM (Compact Disk Read Only Memory), an optical disk, a magneto-optical disk, etc. The portable storage medium 1409 stores the above mentioned program and data for use later as necessary by loading them into the memory 1402.

The network connection device 1407 communicates with an external device through an arbitrary network (line) such as a LAN (Local Area Network), etc., and exchange data for communications. The information processing device receives the above mentioned data from an external device through the network connection device 1407 as necessary, and load the data into the memory 1402 for use.

FIG. 15 shows the method of providing a software program, etc. executed by the information processing device according to the present invention. The program, etc. can be provided in any of the three methods (a) through (c) described below.

(a) Provided after being installed in an information processing device 1501 such as a

program, etc. In this case, the program, etc. is installed in advance before delivery.

(b) Provided after being stored in the portable storage medium 1409. In this case, a
5 program, etc. stored in the portable storage medium 1409 is installed in the external storage device 1405 of the information processing device 1501 such as a computer, etc.

(c) Provided by a server 1503 of a network
10 1502. Basically, in this case, the information processing device 1501 such as a computer, etc. obtains a program, etc. by downloading the program, etc. stored in the server 1503.

As described above in detail, according to the
15 present invention, various CAD parts and image data published on a Web, and the information relating to the data published on the Web can be simultaneously inserted into the application of the client in a simple operation such as a dragging-and-dropping
20 operation, etc. Furthermore, the inserted CAD parts data and image data are not stored on the local disk of the client, but can be obtained by referring to the original Web page. Thus, the present invention can realize a higher work
25 efficiency than the conventional technology, and

further improves the utilization of the local disk resources of the client.

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